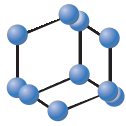


## REVIEW ARTICLE


**BENTHAM  
SCIENCE**

## Influence of Culture in Obsessive-compulsive Disorder and Its Treatment


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**Abstract: Background:** The aspects of cultural identity and its impact on obsessive-compulsive disorder (OCD) have been understudied. There are different opinions, ranging from the idea that culture does not affect the symptoms of this condition to the idea that cultures with high religiosity may have more severity of OCD. Also, the concept of OCD has considerably varied across history and cultures, from being considered an issue related to lack of control of blasphemous ideas, and a part of anxious issues, to the description of complex neurobiological systems in its causation.

**Objective:** The aim of this review was to address OCD as a well-characterized disorder with a proposed neurobiological basis which may or may not have variations depending on cultural diversity. The question that was asked in this review is whether or not there are cultural differences in the manifestations of the OCD symptomatology and which factors of cultural diversity have a major influence on such manifestations along with the differences among some cultures regarding OCD issues, where the difference among countries has also been highlighted.

**Methods:** A review of the literature was conducted that includes the following words: obsessive-compulsive disorder, culture, cultural identity and religion in a period of 10 years.

**Conclusion:** Cultural variations do not seem to differ from symptomatic clusters of OCD, which may be indicating that a series of adaptive behaviors is evolutionarily evolving to be constantly altered, perhaps by well-determined pathophysiological mechanisms. Some aspects that have been related to some dimensions of OCD symptomatology are religion and religiosity, affecting the content of obsessions and the severity of manifestations. Properly evaluating the education background, access to health services, food, and the genetic structure of populations, using investigational instruments sensitive to these cultural elements, will increase our understanding of the importance of culture on OCD and its treatment.

**Keywords:** Culture, education, obsessive-compulsive disorder, treatment, psychosocial, compulsions, predominant, trajectory.

### 1. INTRODUCTION

Culture may affect many clinical findings, how the patient perceives and reports his/her discomfort, and the way in which the clinician understands and interprets the symptoms on the basis of psychiatric diagnosis. Up to date, not much has been reported regarding the extent to which different aspects of cultural identity (religious affiliation, sexual orientation, education years, socioeconomic class) have an impact on clinical manifestation of obsessive-compulsive disorder (OCD) [1-3].

In this sense, it can be assumed that culture may have an impact on different aspects of obsessive-compulsive disorder

as risk factors precipitating the disease, variety of symptoms being experienced, prevalence, severity, and course of the disease [4, 5]. However, there are those who believe that experienced symptoms are similar regardless of the cultural background [1].

The relationship between religiosity/spirituality, personal beliefs (*i.e.*, magical ideation and paranormal beliefs), and mental health has lately been studied extensively, and results have indicated significant associations among these variables. However, scientific approaches to this field are complex and multidimensional, partly leading to poor operationalization, incomparable data and contradictory results. The literature demonstrates that higher religiosity/spirituality and magical ideation scores have often been associated with increased obsessive-compulsive traits [6]. Similar results could not be confidently replicated for other anxiety disorders. However, it is still unclear if these differences suggest a spe-

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cific association with obsessive-compulsive traits and reflect deviating etiopathogenetic and cognitive aspects of obsessive-compulsive disorder and other anxiety disorders, or if these results are biased by other factors. Religiosity/spirituality and personal beliefs constitute important parameters of human experience and deserve greater consideration in the psychotherapeutic treatment of psychiatric disorders [7].

One arising question is whether the structure of DSM-5 is adjusted to all cultures, *i.e.*, if the scheme of collecting patient information is the best for all-cultural contexts. An interesting fact is that most of the known data about OCD come from European countries or the United States of America, as well as the general knowledge about most mental illnesses. However, considering China and India altogether, these two countries account for 38% of the worldwide population, and in these two countries, one-third of all Disability Adjusted Life Years (DALYs) attributable to mental illness (66 million DALYs) has been reported. This figure is greater than the sum of the DALYs of all developed countries (50 million DALYs) [8]. In an analysis of OCD indirect costs (work disability, early retirement, impact on the family), the World Health Organization has ranked it in 11th place in the burden attributable to the disease, in the category of nonfatal diseases, similar to schizophrenia in terms of disability [9]. These data make clear the importance of a better understanding of OCD in a global context, which truly represents the largest number of different countries worldwide.

## 2. METHOD

A review of the literature was made on PubMed for a period of the last ten years (between 2007 and 2017) that included the following words: obsessive-compulsive disorder, culture, cultural identity and religion. These cultural variations were selected arbitrarily and are the most repeated as part of studies in this area of transcultural psychiatry. In addition, we grouped those findings with related concepts that have some cultural influence on the manifestation of OCD, from culture in mental health, history of OCD, international assessment instruments to pharmacological treatments around countries.

## 3. CULTURE, MENTAL HEALTH, AND OCD

The assessment of culture is complicated, particularly in the mental health field. Four domains have been proposed to assess cultural issues in disease intervention [10], the first domain is (1) the cultural identity of the person (ethnicity, race, gender, sexual orientation, religion or spiritual beliefs, socioeconomic class and education, history of migrations). (2) Another domain is the cultural explanation of the disease (onset, causal mechanisms, course, and treatment expectations). (3) Additionally, the third domain is the cultural interpretation of psychosocial stressors and the functioning level (the idea is a description of the context in which the disease arises) [2] and finally, (4) the last domain is the cultural elements of the doctor-patient relationship that may interfere with the biomedical treatment and other forms of healing. We will explain each domain in the following sections.

### 3.1. Cultural Identity

A lot of variables are involved in cultural identity; even when people belong to the same geography and speak the same language, there may be important nuances in cultural identity. On the other hand, there are other variables that also affect a person's identity, such as age, gender, socioeconomic status, class, sexual orientation, religion and therefore, having an impact on the way the mental illness is represented.

The comparisons of the OCD manifestations in different countries are scarce, but they have given us very important information to understand the factors that influence the clinical presentation of OCD. In a study on seven countries with a different cultural background (Canada, Puerto Rico, Germany, Korea, Hong Kong, Taiwan and New Zealand), the incidence of OCD appeared to be relatively homogenous, except for Taiwan, whose incidence rates were lower than the countries mentioned above. There are some variations in the clinical presentation of this disorder as United States, Canada, Puerto Rico and New Zealand, reported a larger proportion of individuals with only obsessions, in contrast with Korea, where the proportion of subjects presented only compulsions was higher than in the other samples [11].

Regarding the use of clinometric tools for OCD assessment, it is interesting that the Y-BOCS has good reliability showing internal consistency in some of the languages which have been translated into Chinese, Spanish, French, Italian, Arabic, German, Iranian *etc* [12-14]. On the other hand, worldwide epidemiological figures of OCD are fairly consistent; the estimated prevalence of OCD in the general population is about 1.6% [15]. However, estimates over time in other studies have varied considerably due to different factors, such as methodological inconsistencies, assessments of clinical evaluators compared with lay evaluators, non-description of subclinical symptoms, not taking into account the severity of the condition, as well as other factors such as the cultural environment, where it is manifested, and access to treatment. In this sense, attempts have been made to analyze environmental risk factors; yet, some authors think that there is still insufficient evidence associated with OCD [16].

In a clinical comparison of OCD patients from the United States and Brazil, which is the largest study on the OCD field, the severity of OCD symptoms and age at onset was similar in both samples. While, there were differences in the comorbidity. The Brazilian subjects had higher rates of generalized anxiety disorder and post-traumatic stress disorder; meanwhile the American individuals were likely to endorse substance abuse disorders. The authors propose that cultural aspects may explain these differences [17].

Fontanelle *et al.* compared a Brazilian sample to 15 samples of four continents from previous studies and found that the proportion of females and males and the age of onset were similar for all the samples. A pattern of mixed obsessions and compulsions was predominant in most of the samples, except for the higher prevalence of aggressive behaviour in Brazilian sample and religious obsessions in samples from the Middle East [5].

Other variations have been found in the clinical presentation of OCD by contrasting an Irish and an English sample. It was reported that Irish subjects had reported symptoms and obsessive behavior compared to English sample, and the severity of these symptoms was found to be correlated with the scholarship of the Irish women [18].

Another aspect that might be influenced by the cultural context is the age of onset [5], as certain characteristics such as superstitions and magical thoughts were reported to be more prevalent in subjects with early-onset OCD. Superstitions and TAF (Thought-action fusion) have been proposed as a component of magical thinking [19]. A study by Einstein and Mensiez [20] suggests that subjects with magical thinking are more likely to exhibit obsessive-compulsive behavior, and these are more likely to be associated with checking. Magical thinking and superstitions vary according to place and culture, the latter has been found to be correlated with compulsive checking independently, without being considered a part of magical thinking [21].

### 3.2. Cultural Explanation of the Disease and its Historical Evolution

Until 1850, the obsessive-compulsive phenomenon was considered as a variant of the "insanity" concept. Subsequently, it was discussed in connection with the new concept (for that time) of psychosis and, by the end of 1880, with the psychoanalytic doctrine, as part of neuroses. These changes reflect the moments of theoretical knowledge in "vogue" of that time. Psychological hypothesis suggested that OCD was the result of a deterioration of emotion, will, and intellect, and did not distinguish the characteristics of compulsive obsessive personality, characterized by a pattern of perfectionism, rigidity and restricted affection. After being considered as typical neurosis in the psychoanalyst narrative, and according to this theory, it was included in the first edition of the "Diagnostic and Statistical Manual of Mental Disorders" (DSM) [22], thus being classified as a neurotic disorder. OCD remained as a discrete nosological entity included in subsequent editions of the DSM (DSM-II, DSM-III and DSM-IV) [23-25] within anxiety disorders. Recently, a historical change has been to pool the dimension of those conditions having compulsiveness, repetitiveness, worry, and obsessiveness as their core, within a spectrum of obsessive-compulsive conditions in the new taxonomy of DSM-5 [26], supported by the similarity of phenomenology, neural substrates, and pharmacological responses. The OCD separation from the group of "Obsessive-compulsive related disorders" (OCDs) (including hoarding disorder, body dysmorphic disorder, trichotillomania and skin picking disorder), which takes place in the DSM-5 classification, makes clear the recognition that OCD is a more complex group beyond anxiety. In parallel, due to numerous neurobiological researches, scientific evidence converges on indicating OCD as a neuropsychiatric disease.

OCD has had a particular trajectory throughout its history. Descriptions of OCD have been made since the fifteenth century [27], when people were preoccupied with

blasphemous ideas of evil spirits, thought to be associated with the disease. Obsessive ideas have been at the center of the historical description in different cultures. The term obsession was derived from the Latin *obsidere*, which means being possessed, occupied or worried about something [28]. Religious ideas as the central theme of obsession have been present in different cultures and have been widely described in texts since the seventh century AD and the ninth century AD, in the Christian world, Islamic writings and in Orthodox Judaism practice. In Christianity, this has been considered as "asceticism", which emulates many symptoms of the OCD spectrum, and also in Islam and Judaism, in various written instructions about the practice of a proper life within religion [2, 29, 30].

The concept of OCD as a neuropsychiatric disorder is based on its onset observations as a complication of encephalitis lethargica and subtle neurological signs in patients recovering from encephalitis. Constantin von Economo was the first one to describe the association between OCD and post-encephalitic Parkinsonism with a causal link to injury in the basal ganglia [31]. Another important progress in the history of psychiatry and OCD took place in the eighties, when Baxter *et al.*, (1987) [32] described the convergence of corticostriatal circuits and their limbic connections, mainly the cingulate gyrus and amygdala in functional neuroimaging studies. Besides, there was a progress in support of the hypothesis of the role of serotonin in the OCD pathophysiology, and it was observed that drugs inhibiting serotonin reuptake are effective, while antidepressants lacking this action mechanism are not effective in the OCD treatment, being virtually the universal treatment method, although this effect occurs only in half of the patients [33-35]. Also, the dopamine hypothesis emerged, given the beneficial effect of some antipsychotics; in many cases of SSRIs-resistant, particularly in those having comorbid tics [36, 37]. In this sense, it is clear that obsessive-compulsive symptoms are common in movement disorders such as Sydenham chorea or Huntington's disease. Evidence of hyper activation in corticostriatal pathways has also highlighted the involvement of the glutamate system, along with molecular genetics findings [38].

The type of obsessions seems to vary according to the cultural context. In Middle Eastern countries, religious themes prevail, meanwhile in Brazil, there is a predominance of aggressive obsessions [39] and in most countries, the issues of contamination are the most predominant, an example of this is the Indian population, where it has been described that the compulsions related to cleanliness and pollution are more prevalent in comparison with other types of compulsions [40]. It has been proposed that this phenomenon is linked to their religion, in which purification and cleansing rituals play an important role [41]. In African American population, the compulsions linked to cleanliness may be relevant as this ethnic group historically has experienced segregation, and other groups avoided to be "contaminated" through direct contact with them [42].

In a study conducted in India, the main explanations that patients with OCD give to their disease are stress and / or

chemical imbalance. It should be noted that more than 50% also include supernatural causes as explanations for their condition. The explanation that the patient finds most satisfactory will determine who will contact for receiving treatment; in this case, those subjects who attribute their disorder to supernatural factors contact a faith healer [43].

It is a fact that patients often turn towards religion, spirituality and moral traditions to understand and respond to mental illness; for example, for the OCD case, this may determine the extent to which a type of treatment is acceptable (exposure and response prevention), as well as the duration (pharmacotherapy) [44].

### 3.3. Psychosocial Stressors

Stress seems to be a trigger for the onset of OCD [45]. In addition, patients with OCD have higher levels of perceived stress compared with subjects without this disorder [46].

The types of stressors vary according to the cultural context, for example the population of industrialized countries develop in an environment different from those of developing countries. The latter frequently face poor services, overcrowding and limited resources. In addition to the variation in the type of stressors, the response to these could be influenced by cultural factors, for example the response to work stress and certain psychopathological features seem to be related to a collectivist or individualistic culture. Both models have advantages and disadvantages that could influence the mental health of individuals. A collectivist context promotes greater ties with other individuals in society, as well as increases anxiety by increasing the sense of responsibility with other individuals. On the other hand, an individualistic environment promotes competition with other individuals and social isolation [47, 48].

The response to stress seems to be influenced by cultural factors, for example, the way of interpreting stress generated by a problem may vary according to the cultural background. Subjects from a collectivist community tend to give greater importance to social resources and face any stressful situation more easily compared to subjects from an individualistic community [49, 50]. A model proposed by Neblett *et al.* [51] suggests that the ethnic identity may affect the relevance of cultural stressors such as discrimination. For example, in Latino population, *familismo*, which is described as a connection with relatives, may help Latin students to deal with stressful situations [52]. In other ethnic groups, other strategies are chosen. African American students considered their participation in religious activities to be more important in managing stress, while Asians were reported to more likely use emotion-focused responses [53].

From an evolutionary outlook, it may be speculated that some characteristics of obsessive-compulsive personality, such as being organized, meticulous, perfectionistic, may represent a certain adaptive advantage, in the same way as inflexibility, exaggerated rigidity or conscientiousness would be oriented to a maladaptive sense. Several arguments have

been discussed; in this regard, sub-threshold OCD symptoms would make a certain adaptive sense as an evolutionary advantage [54]. Additionally, variants of the personality seen under the Research Domain Criteria (RDoC) perspective, in which emphasis is made on the dimensional characteristics and their neurobiological basis, may provide a better understanding of how personality influences the clinical OCD presentation [55]. A common neurobiological substrate has been mentioned for the impulsiveness and compulsiveness dimensions [56]. More recently, it has even been postulated that the obsession for proper nutrition may be a present dimension both in OCD and in the autism spectrum [57].

A syndrome initially described in Japan, but which has been subsequently established in other places and that was thought to be strongly influenced by culture, is the so-called "hikikomori", a form of avoidant phobic isolation, distantly related to OCD and which is now seen as a likely new diagnostic entity, not limited to Japan, but requiring further research [58]. The cases of hikikomori are an example of cultural variation that does not have a referent in the West, as such because it implies a sense of family shame, and this traps the sick and the family, who become accomplices so that people do not point them out as an abnormal family. In the West, the cases of "hikikomori" are people without family, or in a state of family abandonment. In a study it was seen that the family of the hikikomoris prevent the neighbors from learning about the situation at home. Perhaps the evolutionary considerations alone do not fully support the idea of the OCD emergence, but they constitute an interesting debate.

### 3.4. Physician-patient Relationship

There is evidence that race, ethnicity, and language have substantial influence on the quality of the doctor-patient relationship. These cultural factors will impact the development of empathy from physician, communication and participation in medical decision making [59].

Some recommendations to emphasize culture are only made if there is a disparity between the patient culture and of the clinician. However, the assessment of these aspects may be laborious and time-consuming, added to the fact that it is not clear how this directly affects the treatment plan to be followed with the patient. Some of the clinical consequences of the lack of understanding of culture have been misunderstandings in clinical recommendations, incomplete assessments, misdiagnoses, lack of rapport in the doctor-patient relationship, poor adherence and improper treatment [60].

Culture also affects the types of health treatment. Seeking care outside of the medical or psychiatric setting merits attention because this may complement or go against psychiatric care. Just as barriers for access to treatment may reflect cultural stances, previous experiences regarding care, family values or care recommendation from the social support network of the patient may interfere with psychiatric care [61]. The extent to which a psychiatric interview taking culture into account changes the clinical care issues, such as diagno-

sis, treatment planning, patient adherence, and patient satisfaction with treatment, is still unknown.

It is also important to know the identity of the clinician. Some people may feel uncomfortable when discussing their origins, and if the clinician is not familiar with this (empathy), the assessment can be more complicated. It is known that the country of origin may be a factor correlating with both physical and emotional health [62]. Another important aspect to consider is the failure of health systems in not providing interpreters when there are linguistic differences, as this may increase the communication difficulties between doctor and patient. It is necessary to study other aspects of the doctor-patient relationship where culture could have a relevant role, as is the case of countertransference that has been studied in other human relationships [63].

#### 4. RELIGION

Cross-cultural studies have also provided information on different religious contexts and their possible influence on OCD manifestations, for example, some studies suggest that Catholics may be at a greater risk for OCD [64-66] and higher severity in OCD symptoms [67]. There are reports of differences in the OCD manifestations possibly related to religion, for example, the case of ultra-Orthodox Jews [68] and Muslims [69], in whom their religion influences the pattern of actions and thoughts, being those related to their respective rules and rites.

A study examined Muslim and Christian subjects from Turkey and Canada and found that the Muslim patients reported more OCD symptoms than in the Christians. Another interesting finding was that subjects with a higher degree of religiosity, regardless of religion, having more obsessional thoughts and checking compulsions [70].

It has been estimated that from 10 to 30% of patients with OCD have obsessive ideas about religion, and in 5%, their main theme is religious [29, 30, 31]. In addition, Freud postulated the hypothesis that religion is a universal obsessive ritual and that there is a relationship between obsessive-compulsive neurosis and religion. This idea was not popular neither among religious leaders nor among psychologists, as it was counter-argued that rather than isolating individuals, religion helped connecting people and integrating them socially [2]. Also, since the above-mentioned first writings, descriptions for understanding the morbid nature of thoughts have been provided, as well as pathological recognition and clear clinical descriptions. Even some interventions that may be considered as cognitive-behavioral are suggested [29, 30].

In other descriptions in Turkey, it has been observed in groups of patients with OCD, that there was no correlation between religiosity and severity in the Y-BOCS scale [31]. In Islam, practicing patients with OCD, it was found that there was a high frequency of blasphemous obsessive ideas, according to the authors, attributable to the environment rather than to a causal factor, and the same has been suggested when studying other religious groups as Orthodox Jews in Israel and religious people in China [71-73].

Some hypotheses have been proposed in an attempt to explain the relationship between religiosity and OCD, as the strict and scrupulous rules of some religions might encourage misinterpretation of intrusive thoughts, a constant attempt to control these thoughts and guilt [74]. The subject then performs actions to eliminate intrusive thoughts, which according to his/her religion, can be considered as sinful, thus alleviating that feeling of guilt [75]. By not having complete control of his/her thoughts, more frequently he/she performs the acts which he/she believes can eliminate such ideas.

In general, it seems that the literature findings do not associate religion itself as an etiological factor for OCD; however, they do refer religion as a part of the person's culture, which seems to play an important role in how OCD is manifested.

#### 5. PHARMACOLOGICAL TREATMENT IN DIFFERENT COUNTRIES

The use of pharmacological treatments for OCD varies significantly among countries worldwide [73]. One of the differences observed among countries is that not all patients are being treated pharmacologically (44% OCD patients untreated in Brazil, 38% in Australia; in Italy, Japan and Spain nearly 100% of patients are on pharmacological treatment) [60]. In China, the search for pharmacological treatment is below 6% for most mental disorders [4, 76]. Similarly, it is thought that in India, only one in 10 individuals receive an evidence-based treatment [4]. In patients on pharmacotherapy, differences are marked among countries in terms of the types of drugs. For example, in the case of OCD in Latin America, there was a high use of benzodiazepines, and in some of these countries, many people use Exposure Response Prevention Therapy, as the government subsidizes it.

Among OCD patients, one-quarter receiving pharmacotherapy receive antipsychotics [60, 77]. The country in which atypical antipsychotics for OCD are used the most, is Japan, probably with the highest Y-BOCS scores [60]. It is also important to emphasize the influence of public policies on each country regarding access to treatments, as well as subsidies for drug and interventions. However, it is very important to continue collecting data regarding response rates, severity measurements and the variety of the condition presentation, adverse effects, the role of other treatments or social interventions, if any, and support networks.

Regarding populations, an interesting argument lies in the OCD pharmacogenomics, where more adverse effects to clomipramine in Asian populations have been described, due to a high frequency of slow metabolizers with a CYP2C19 polymorphism. In another study mainly conducted in European descent population in Canada, more patients with OCD treatment failure were significantly found in phenotypes of slow metabolizers. In this case for CYP2D6 genotype [78]. This branch highlights the relevance of ethnicity in the biological response to treatments, beyond culture.

## CONCLUSION

So far there is limited data on the extent to which OCD is influenced by cultural background. However, it is an area that deserves much further research. Differences in education, access to health, food, and genetic structure of populations, combined with characteristics of the ecosystem of each location, surely must have an influence on the manifestations, clinical course, severity and treatment response in patients having OCD. This requires the inclusion of methodological tools sensitive to the detection of cultural elements, within the routine study of patients with OCD. However, at present, this information is unknown and it is necessary to generate further research to answer these questions. Some aspects that have been related to some dimensions of OCD symptomatology are religion and religiosity, affecting the type of obsessions and severity of manifestations, respectively. This paper addressed some cultural factors that may have any influence on the presentation of OCD, and the difference among diverse countries and cultures has also been highlighted. However, it is important to note that not much has been reported regarding OCD and different aspects of cultural identity (religious affiliation, sexual orientation, socioeconomic class), and further research in this field are still necessary.

## ETHICS APPROVAL AND CONSENT TO PARTICIPATE

Not applicable.

## HUMAN AND ANIMAL RIGHTS

No Animals/Humans were used for studies that are base of this research.

## CONSENT FOR PUBLICATION

Not applicable.

## CONFLICT OF INTEREST

The authors declare no conflict of interest, financial or otherwise.

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Declared none.

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